GTR 50 SERVICE MANUAL

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THE CONTENTS OF THIS MANUAL PROVIDE THE SERVICE INFORMATION FOR CPI \GTR50.

MOST CHAPTERS START WITH A SYSTEM OR ASSEMBLY ILLUSTRATION AND SPECIFICATIONS THE FOLLOWING PAGES GIVE DETAIL PROCEDURES.

IF YOU DO NOT KNOW WHAT THE SOURCE OF THE TROUBLE IS, PLEASE GO TO THE TROUBLESHOOTERS FOR ADDITIONAL HELP.

ALL THE CONTENTS OF THIS MANUAL ARE BASED ON THE LATEST MODEL INFORMATION CPI RESERVES THE RIGHT TO MAKE CHANGE AT ANY TIME WITHOUT NOTICE AND WITHOUT ANY RESPONSIBILITY OR ENGAGEMENT ON OUR PART.

TROUBLE SHOOTING

ENGINE WILL NOT START OR IS HARD TO START

			PROBABLE CAUSE
1	CHECK IF FUEL REACHES CARBURETOR ***FUEL REACHES CARBURETOR*** ↓	FUEL DOES NOT REACH CARBURETOR	(1) NO FUEL IN TANK (2) CLOGGED FUEL LINE BETWEEN FUEL TANK AND CARBURETOR (3) CLOGGED FUEL VALVE (4) CLOGGED FUEL TANK CAP BREATHER HOLE
2	REMOVE SPARK PLUG AND TEST SPARK ***GOOD SPARK***	WEAK OR NO SPARK	(1) FAULTY OR FOULED PLUG (2) FAULTY C.D.I. (3) BROKEN OR SHORTED HIGH TENSION CORD (4) FAULTY IGNITION SWITCH (5) INCORRECT IGNITION TIMING
3	TEST CYLINDER COMPRESSION ↓ ***NORMAL COMPRESSION*** ↓	LOW COMPRESSION	(1) ENGINE NOT CRANKED (2) NO VALVE CLEARANCE (3) VALVE STUCK OPEN (4) WORN CYLINDER AND PISTON RINGS (5) BLOWN CYLINDER HEAD GASKET (6) FLAW IN CYLINDER HEAD (7) INCORRECT VALVE TIMING (8) BURNED VALVE
4	START ENGINE ***ENGINE FIRES*** ↓	ENGINE FIRES, BUT DOES NOT START	(1) CHOKE VALVE OPEN (2) CARBURETOR PILOT SCREW OPEN (3) AIR LEAKING THROUGH IN TAKE PIPE (4) INCORRECT IGNITION TIMING
5	REMOVE SPARK PLUG ***DRY PLUG*** ↓	WET PLUG	(1) FLOODED CARBURETOR (2) CHOKE VALVE CLOSED
6	START ENGINE WITH CHOKE CLOSED		

ENGINE LACKS POWER

	FLOW PATH	BAD SITUATION	PROBABLE CAUSE
1	RAISE WHEELS OFF GROUND AND SPIN *WHEELS SPIN FREELY* ↓	WHEELS DO NOT SPIN FREELY	(1) DRAGGING BRAKE (2) FAULTY WHEEL BEARING (3) OVERTIGHTENED DRIVE CHAIN (4) WHEEL BEARING NOT LUBRICATED PROPERLY
2	CHECK TIRE PRESSURE *NORMAL PRESSURE* ↓	INCORRECT TIRE PRESSURE	(1) PUNCTURED TIRE (2) FAULTY TIRE VALVE
3	RAPIDLY ACCELERATE FROM LOW TO SECOND *ACCELERATES* ↓	DOES NOT ACCELERATE WITH ENGINE SPEED RAISED	(1) SLIPPING CLUTCH (2) WORN OR UNEVEN CLUTCH FACINGS (3) CLUTCH PLATE WARPED
4	REV UP GRADUALLY *ENGINE SPEED INCREASES* ↓	ENGINE SPEED DOES NOT INCREASE	(1) CARBURETOR CHOKE CLOSED (2) CLOGGED AIR CLEANER (3) CLOGGED FUEL LINE (4) CLOGGED FUEL TANK CAP BREATHER HOLE (5) CLOGGED MUFFLER
5	CHECK IGNITION TIMING *CORRECT TIMING* ↓	INCORRECT TIMING	INCORRECT TIMING ADJUSTMENT
6	CHECK VALVE CLEARANCE *CORRECT VALVE CLEARANCE* ↓	INCORRECT VALVE	(1) INCORRECT VALVE CLEARANCE (2) WORN VALVE SEAT

7	TEST CYLINDER COMPRESSION *NORMAL COMPRESSION* ↓	LOSS OF COMPRESSION	(1)VALVE STUCK OPEN (2) WORN CYLINDER AND PISTON RINGS (3) BLOWN CYLINDER HEAD GASKET (4) INCORRECT VALVE TIMING (5) FLAWS IN CYLINDER HEAD OR CYLINDER
8	CHECK CARBURETOR FOR CLOGGING *CARBURETOR NOT CLOGGED* ↓	CARBURETOR CLOGGED	(1) CARBURETOR JETS CLOGGED
9	REMOVE SPARK PLUG	PLUG FOULED OR DISCOLORED COLORED	(1) FOULED PLUG (2) INCORRECT HEAT RANGE PLUG
10	CHECK OIL LEVEL AND CONDITION *CORRECT ENGINE OIL LEVEL* ↓	OIL DIRTY OR LEVEL INCORRECT	(1) LEVEL TOO LOW OR HIGH (2) CONTAMINATED OIL
11	REMOVE CYLINDER HEAD COVER AND CHECK *SUFFICIENTLY LUBRICATION* ↓	INSUFFICIENTLY LUBRICATED	(1) CLOGGED OIL PASSAGE (2) POOR OIL PUMP DELIVERY
12	CHECK IF ENGINE OVERHEATS *ENGINE DOES NOT OVERHEAT* ↓	ENGINE OVERHEATS	(1) EXCESSIVE CARBON IN COMBUSTION CHAMBER (2) INCORRECT FUEL (3) SLIPPING CLUTCH
13	RAPIDLY ACCELERATE OR URN AT HIGH SPEEDS *ENGINE DOES NOT KNOCK* ↓	ENGINE KNOCKS	(1) WORN PISTON OR CYLINDER (2) MIXTURE TOO LEAN (3) INCORRECT FUEL (4) EXCESSIVE CARBON IN COMBUSTION CHAMBER (5) LGNITION TIMING TOO EARLY

POOR PERFORMANCE AT IDLE AND LOW SPEEDS

	FLOW PATH	BAD SITUATION	PROBABLE CAUSE
1	CHECK IGNITION TMING AND VALVE CLEARANCE *CORRECT TIMING AND CLEARANCE* ↓	INCORRECT TIMING AND CLEARANCE	(1) INCORRECT TIMING ADJUSTMENT (2) INCORRECT VALVE CLEARANCE
2	CHECK CARBURETOR PILOT SCREW ADJUSTMENT *CORRECTLY ADJUSTED* ↓	INCORRECTLY ADJUSTED	(1) MIXTURE TOO LEAN (2) MIXTURE TOO RICH
3	CHECK FOR AIR LEAKS *NO AIR LEAKS* ↓	AIR LEAKS	(1) FAULTY CARBURETOR PACKING (2) CARBURETOR NOT SECURELY TIGHTENED (3) FAULTY INTAKE PIPE GASKET
4	REMOVE SPARK PLUG AND TEST SPARK	WEAK OR INTERMITTENT SPARK	(1) FAULTY OR FOULED PLUG (2) FAULTY C.D.I. (3) MAGNET AT FAULT

POOR PERFORMANCE AT HIGH SPEED

	FLOW PATH	BAD SITUATION	PROBABLE CAUSE
1	CHECK IGNITION TIMING AND VALVE CLEARANCE *CORRECT TIMING AND CLEARANCE* ↓	INCORRECT TIMING AND CLEARANCE	(1) INCORRECT TIMING ADJUSTMENT (2) INCORRECT VALVE CLEARANCE
2	DISCONNECT FUEL LINE AT CARBURETOR AND CHECK FOR CLOGGING *UNRESTRICTED FUEL FLOW* ↓	RESTRICTED FUEL FLOW	(1) EMPTY FUEL TANK (2) CLOGGED FUEL LINE (3) CLOGGED FUEL TANK CAP BREATHER HOLE (4) CLOGGED FUEL PETCOCK
3	CHECK FUEL FILTER, FUEL VALVE AND CARBURETOR JET FOR CLOGGING *NOT CLOGGED* ↓	CLOGGED	(1) CLOGGED JET (2) CLOGGED FUEL FILTER (3) CLOGGED FUEL VALVE
4	REPLACE CARBURETOR MAIN JET *CONDITION IMPROVED* ↓	CONDITION AGGRAVATED	(1) JET SIZE TOO SMALL (2) IF CONDITION IS IMPROVED WITH SMALL JET: A) CLOGGED AIR CLEANER B) CHOKE NOT OPENED FULLY
5	CHECK VALVE TIMING *CORRECT* ↓	INCORRECT	INCORRECT VALVE TIMING ADJUSTMENT
6	CHECK VALVE SPRING TENSION *SPRING TENSION CORRECT*	WORN OR BROKEN SPRING	FAULTY VALVE SPRING

SMOKY EXHAUST

	FLOW PATH	BAD SITUATION	PROBABLE CAUSE
1	RUN MOTORCYCLE A LONG DISTANCE AT HIGH SPEED *THIN EXHAUST EMITTED* ↓	BLACK SMOKE EMITTED	(1) WORN CYLINDER AND PISTON RINGS (2) OIL LEVEL TOO HIGH (3) PISTON RINGS INCORRECTLY INSTALLED (4) FAULTY PISTON OR CYLINDER (5) FLAWS IN CYLINDER HEAD
2	RETURN THROTTLE GRIP QUICKLY	WHITE SMOKE EMITTED	(1) WORN INTAKE VALVE GUIDE OR STEM (2) EXCESSIVE VALVE-TO-GUIDE CLEARANCE

POOR HANDLING

	FLOW PATH	BAD SITUATION	PROBABLE CAUSE
1	IF STEELING IS HEAVY	CHECK TIRE PRESSURE	(1) STEERING HEAD ADJUSTER TOO TIGHT (2) DAMAGED STEERING CONES OR STEEL BALLS
2	IF EITHER WHEEL IS WOBBLING		(1) EXCESSIVE WHEEL BEARING PLAY (2) DISTORTED RIM (3) IMPROPERLY INSTALLED WHEEL HUB (4) SWING ARM PIVOT BUSHING EXCESSIVELY WORN (5) DISTORTED FRAME (6) IMPROPER DRIVE CHAIN TENSION OR ADJUSTMENT
3	IF THE MOTORCYCLE PULLS TO ONE SIDE		(1) MISAPPLIED SHOCK ABSORBER (2) FRONT AND REAR WHEELS NOT ALIGNED (3) BENT FRONT FORK (4) BENT SWING ARM

ENGINE REMOVAL/ INSTALLATION

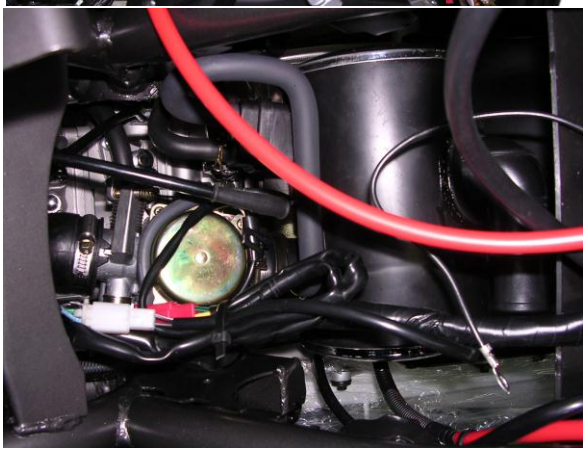
1. Open and remove the seat.

2. Remove the rear luggage case.

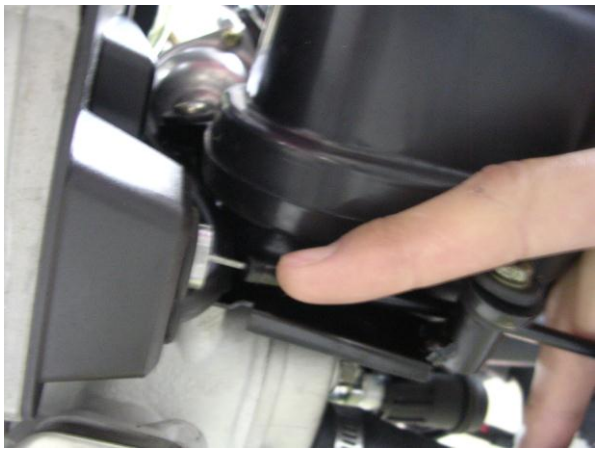
3

.Remove the side cover.

Remove the throttle valve from the carburetor.
Disconnect the earth wire of engine.
Disconnect the coil wire.
Disconnect the A.C.G. wire.
Disconnect the start motor wire.
Disconnect the starter plunger wire.



Disconnect the fuel & the vacuum tube.
Disconnect the spark plug cap.
Disconnect the rear brake cable.



Remove the setting bolt of rear cushion.
Remove the setting bolt of engine.
Remove the engine.

The installation sequence is essentially the reverse of removal.

NOTE:

Route all the wire and cable properly.
Adjust the throttle cable free play.
clearance.
Adjust the rear brake free play.

TORQUE

TORQUE STANDARD

SORTS	***TORQUE(kg-m)***
5mm screw, nut	0.5
6mm screw, nut	1.2
8mm screw, nut	2.7
10mm screw, nut	4.0
12mm screw, nut	5.5

INNER OF ENGING

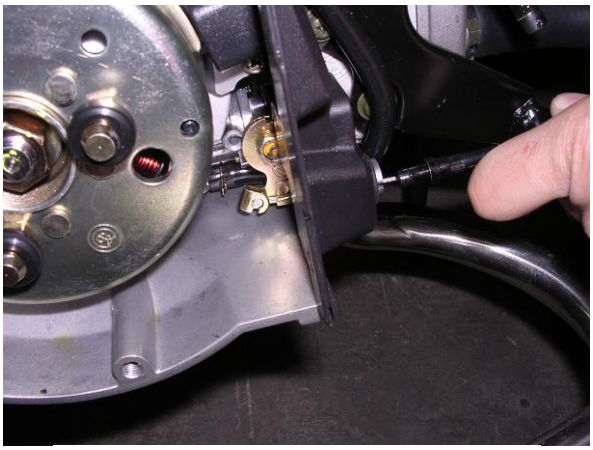
ITEM	***AMOUNT***	***DIAMETER(mm)***	***TORUQUE(kg-m)***	***REMARKS***
Cylinder head bolt, A	2	8	3.0	Stud bolt side
Cylinder head bolt, B	2	8	3.0	Stud bolt side
EXH. pipe joint bolt	2	8	0.9	Spread on thread
Drive face nut	1	17	3.5~4.0	
A.C.G. nut	1	17	3.5~4.0	
Oil pump bolt	2	6	0.8	
Cylinder head cover bolt	2	10	1.5	
Spark plug	1	12	1.8	

FRAME

ITEM	***AMOUT***	***DIAMETER(mm)***	***TORQUE(kg-m)***
Shaft steering nut	1	10	4.5
FR. Wheel axle nut	1	12	6.0
RR. Wheel axle nut	1	16	9.0
RR. shock absorber bolt (up)	1	10	3.0
RR. shock absorber bolt (down)	1	8	3.0
ENG. Hanger BRKT. Bolt	1	10	5.5

LUBRIFICATION SYSTEM

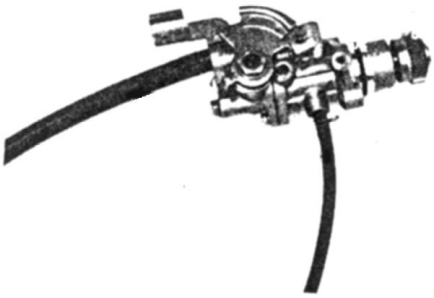
Remove luggage box & side covers.
Disconnect the oil tube of oil pump (intake & output).
Remove the oil pump control cable.
Remove the setting bolt of oil pump.
Remove the oil pump.



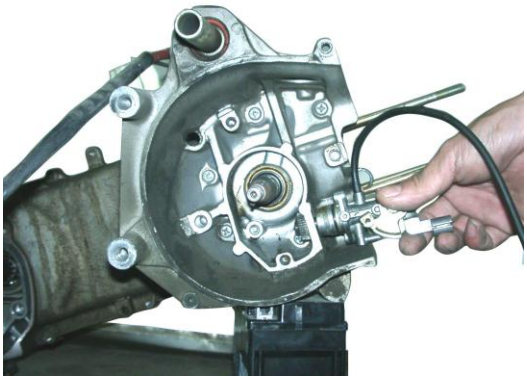
Check the O-ring, gear & seal for wear or any damage.

NOTE:

Do not disassembly the oil pump body to prevent any damage.



Coating some oil on the O-ring.
Install the oil pump onto the crankcase.



Connect the oil tube.
Connect the oil pump control cable and adjust the clearance.

LUBRIFICATION SYSTEM

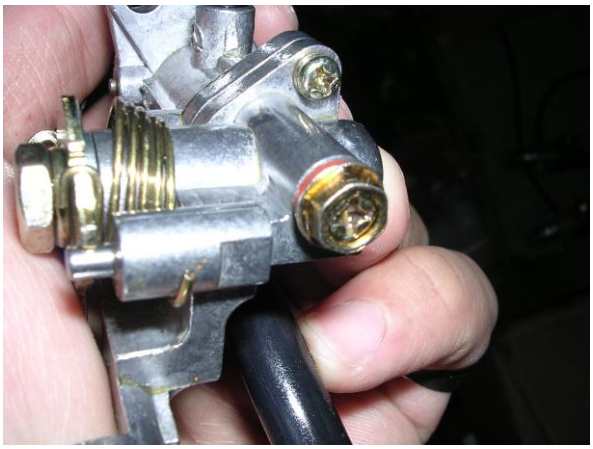
RELEASE THE AIR OF OIL PUMP

Loosen the drain screw.

Let the oil drain out in smoothly then tight the screw.

NOTE:

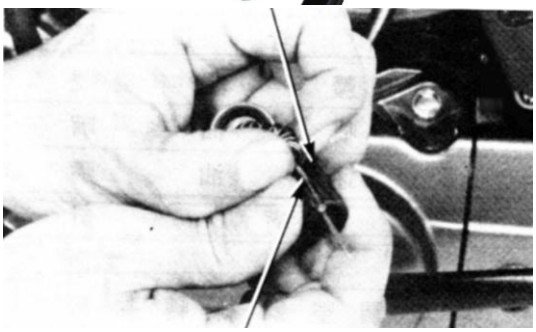
If the oil can not drain out in smoothly, it is mean some air still in the oil pump.



FUEL SYSTEM

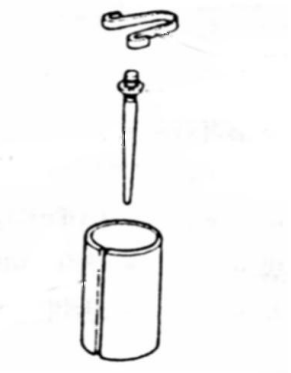
Remove the seat.
Remove the luggage box.
Loose the carburetor cap of throttle valve.
Remove the throttle valve from the carburetor.

Remove the throttle valve from the throttle cable.



THROTTLE VALVE DISASSEMBLY

Remove the retainer and take out the jet needle clip from the throttle valve.

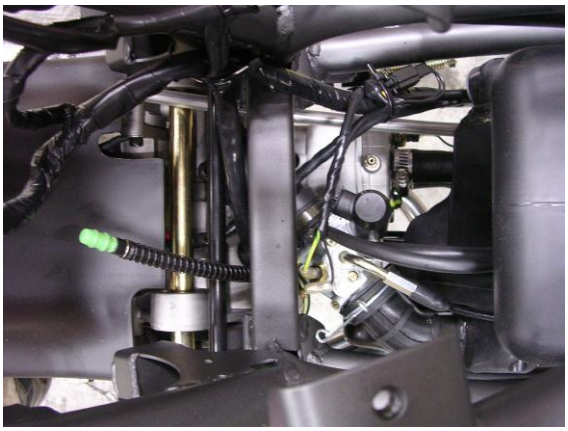


INSPECTION

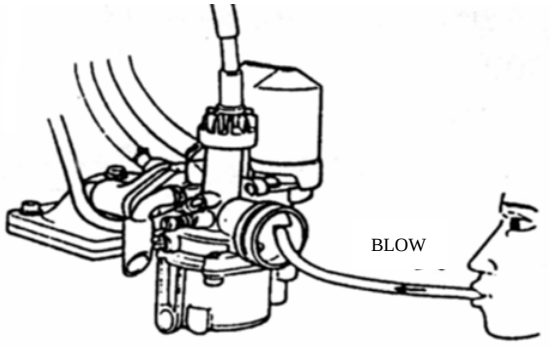
Check the throttle valve and the jet needle surface of dirt, scratches or wear.

CARBURETOR REMOVAL

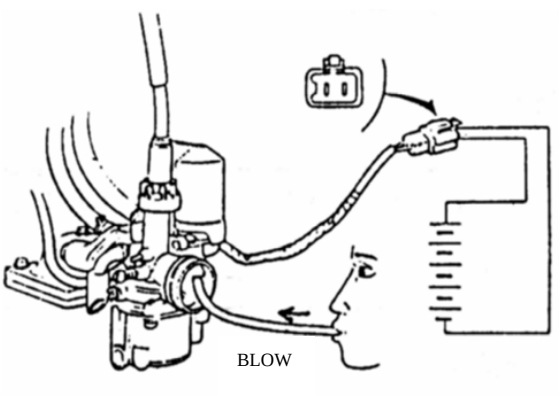
Remove the side cover
Remove the luggage box ASSY.
Remove the starter plunger wire.
Remove the throttle cable.
Remove the fuel tube from the carburetor.
Loose the screw of the air cleaner band.
Loose the bolts between the intake pipe & the carburetor.
Remove the carburetor.



Remove the carburetor and let it cool down by nature for thirty minutes.
Check the current of air route as show.
GOOD : PASSABLE
NG :IMPASSABLE



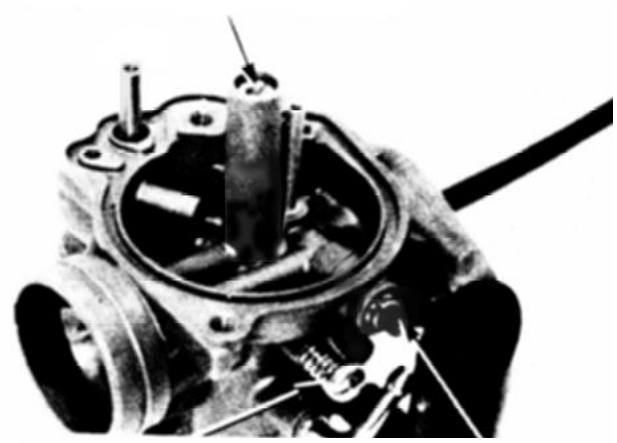
Connect a full charged battery to the starter plunger wore for five minutes.
Check the current of route as show.
GOOD : IMPASSABLE
NG : PASSABLE



FLOAT CHAMBER DISASSEMBLY
Remove the setting screws.
Remove the chamber cap.

Remove the float setting bolt.
Remove the float pin.
Remove the float.
Remove the float valve.

Remove the main jet, slow jet, needle seat & air screw.
Clean all the jet & all the hole by using high pressure air.



FUEL HEIGHT INSPECTION
Measure the height by using a gauge.
STANDARD: 18.5㎜

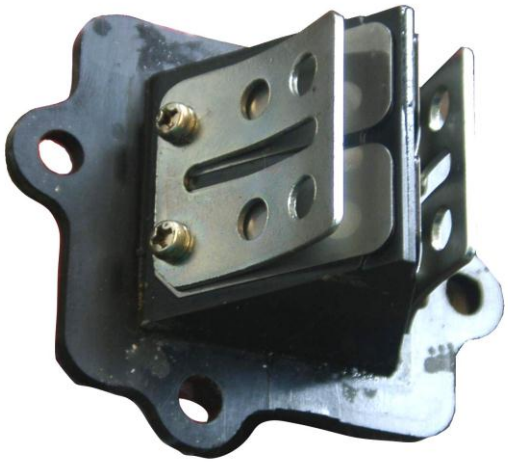
CARBURETOR INSTALLATION
The installation sequence is essentially the reverse of remove.

Adjust the clearance of the throttle valve cable.
Adjust the air screw.
STANDARD : 1+1/2round
Adjust the idle speed.
STANDSRD: 1800±100 rpm

REED VALVE REMOVAL
Remove the carburetor.
Remove the intake pipe.
Remove the reed valve.

REED VALVE INSPECTION
Measure the height of reed valve stopper.
STANDARD: 6.0-6.4㎜

Check the flatness of reed valve.
SERVOCE LIMIT : 7.0㎜

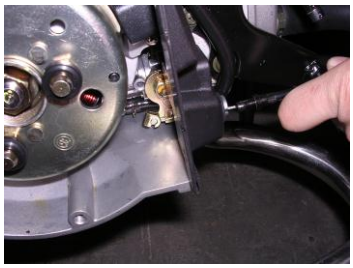


REED VALVE INSTALLATION
The installation sequence is essentially the reverse of removal.

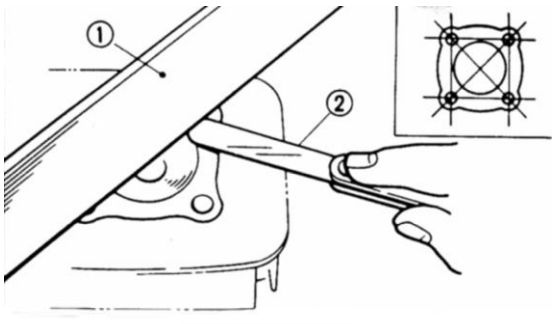
CYLINDER HEAD/ CYLINDER/ PISTON

Put the right side of vehicle on the ground.
Attention! Please have a protected pad on the proper location of the ground to avoid crash or damage of plastic parts.

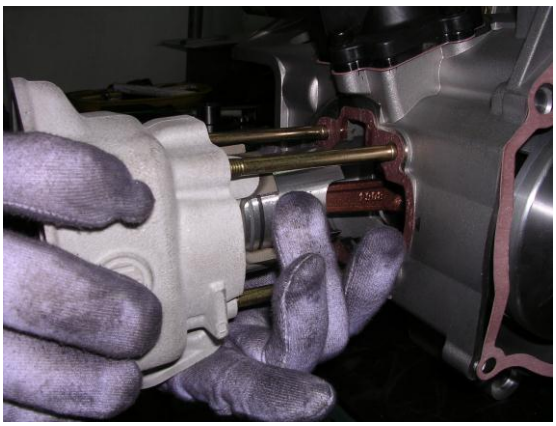
Remove the spark plug cap.
Remove the exhaust muffler.
Remove the cylinder air shrouds.
Remove the spark plug.
Remove the setting bolts of cylinder head.
Remove the cylinder head.



Cylinder head flatness inspection.
SERVICE LIMIT: 0.05㎜



CYLINDER REMOVAL
Remove the cylinder head.
Remove the cylinder.
Remove the cylinder gasket.
NOTE:
Clean all the material of cylinder gasket with
a scraper.

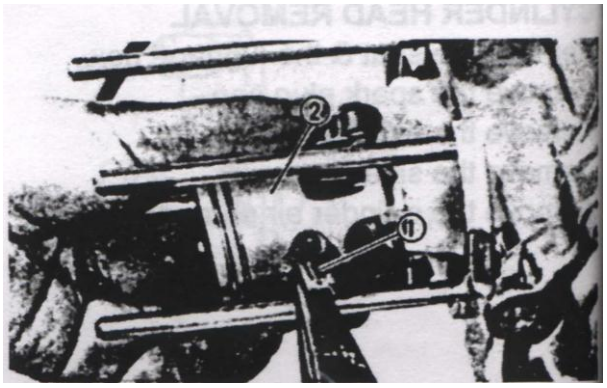


PISTON REMOVAL

Remove the piston pin clip.

NOTE:

Do not let the clip fall into the crankcase.



Remove the piston pin.

Remove the piston.

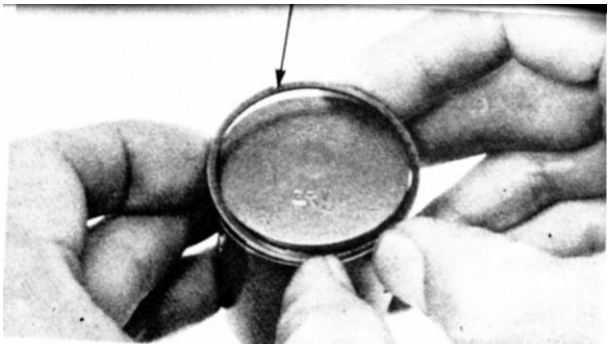
PISTON / PISTON RING INSPECTION

Remove the piston rings.

Clean the grooves for carbon deposit completely.

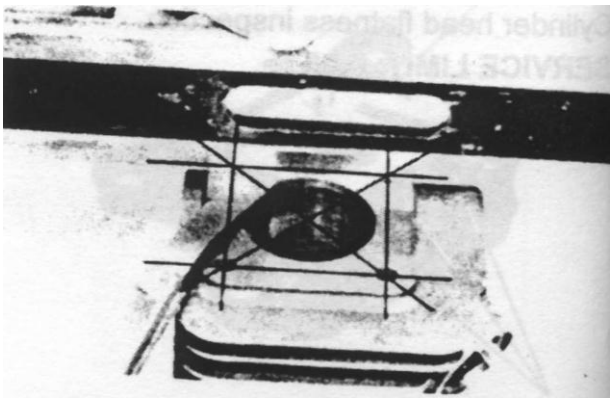
NOTE:

Do not damage the piston ring during removal.



Cylinder block flatness inspections:

SERVICE LIMITS: 0.05㎜



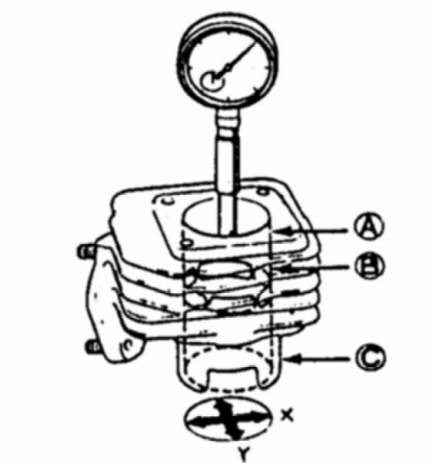
CYLINDER INSPECTION

Inspect the cylinder bore for wear or damage.

Measure the cylinder I. D. at three places; top, middle and bottom of piston travel and in two directions at right angle to each other.

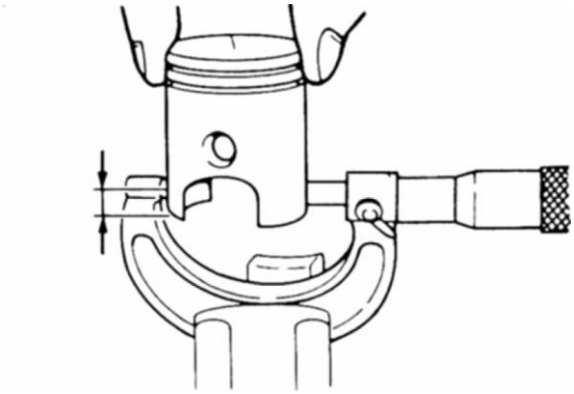
SERVICE LIMITS: 40.2㎜

Calculate the piston-to-cylinder clearance.
SERVICE LIMITS : 0.1㎜



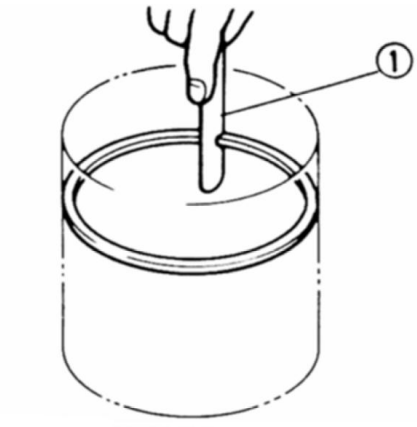
Calculate the taper and out of round.
SERVICE LIMITS:
Out of round: 0.05㎜
Taper: 0.05㎜

Measure piston pin bore O. D. at a point 10㎜ from the bottom.
STANDARD:39.95㎜

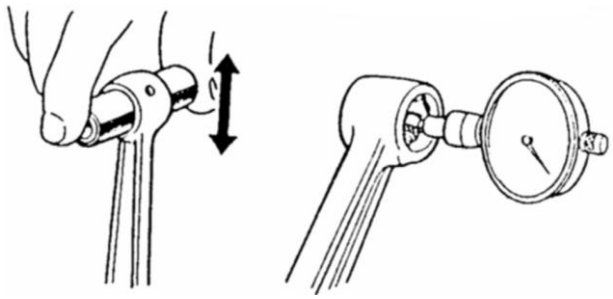


Measure piston pin bore I. D. in two directions at right angle to each other.
STANDARD: 12.05㎜
Measure the piston pin O. D. at the front, center and rear and in two directions across from each other.
STANDARD: 12.05㎜

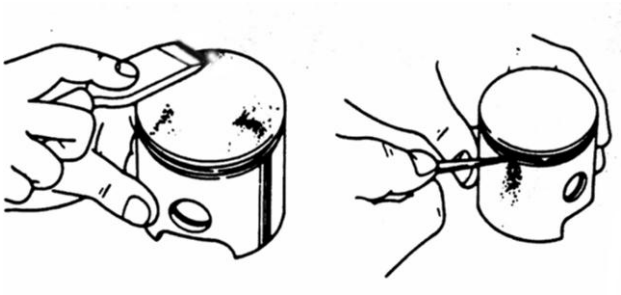
Insert each piston ring into cylinder with the piston and measure the ring end gap in the cylinder to a point 10㎜ (*0.04 in*) from the bottom.
STANDARD:
Top / Second: 0.15~0.35㎜



Connecting rod small end inspections:
SERVICE LIMITS: 14.06㎜.

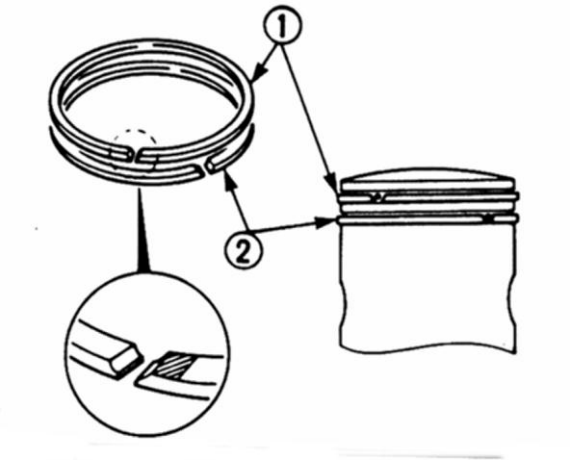


PISTON RING INSTALLATION
Clean the piston ring grooves thoroughly.
Install the piston ring.



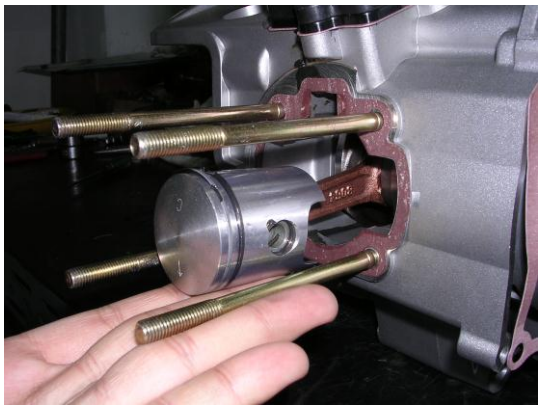
NOTE:

- **Avoid piston and piston ring damage during installation.**
- **All ring should be installed with the mark facing up.**

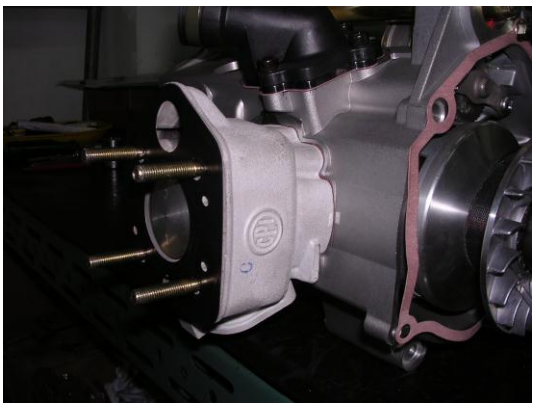


PISTON INSTALLATION
Install the piston, piston pin and new piston pin clips.
NOTE:

- **Piston the "EX" mark on the exhaust side.**
- **Do not let the piston pin clip fall into the crankcase.**



Install the cylinder gasket.
Coat the cylinder and piston ring with the engine oil.
Install the cylinder.



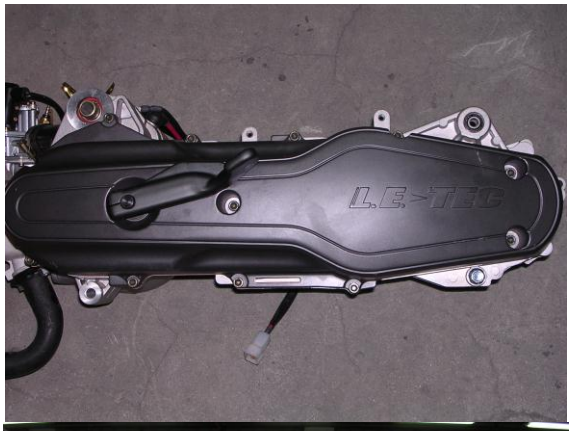
COMPRESSION PREASURE TEST
NOTE:

Worm up the engine before test.

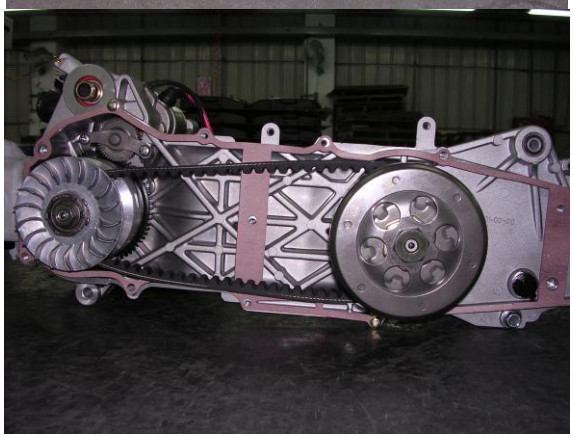
Remove the seat & luggage box.
Remove the spark plug cap & spark plug.
Turn the throttle grip with the throttle valve on the upset position.
Start the motor for 7-8 seconds for test the pressure

TRANSMISSION SYSTEM

Remove the start kick.
Remove the crankcase cover.
Remove the dowel pin.

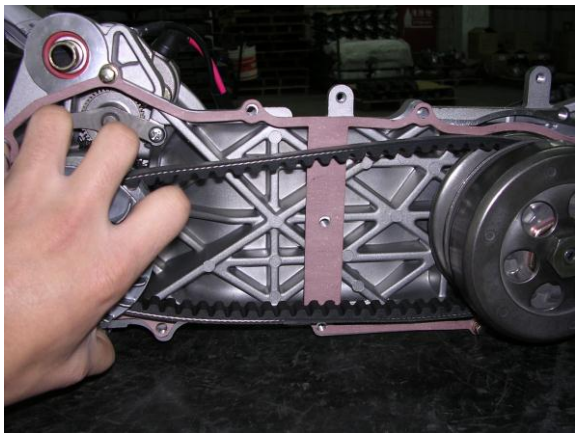


Remove the kick pinion with the kick friction spring.
Disconnect the kick start spring.

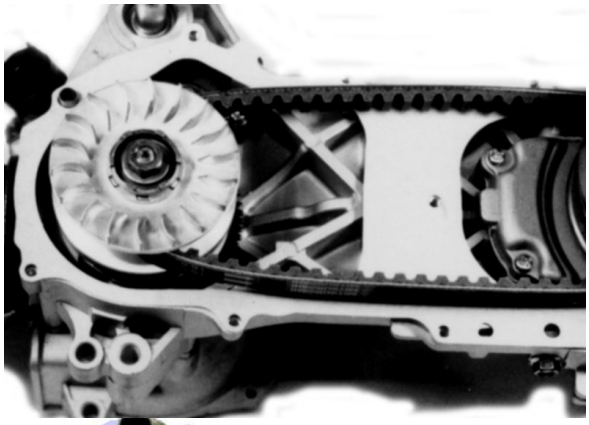


Remove the cir-clip & plate washer.
Remove the kick spindle bush.
Remove the spindle & the spring.

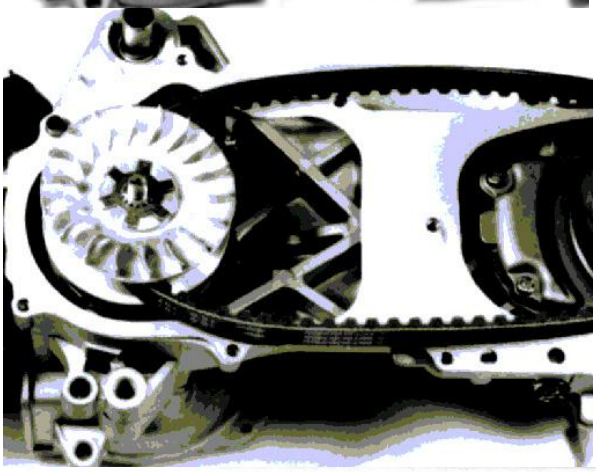
Remove the O-ring.
Remove the setting nut of clutch outer.



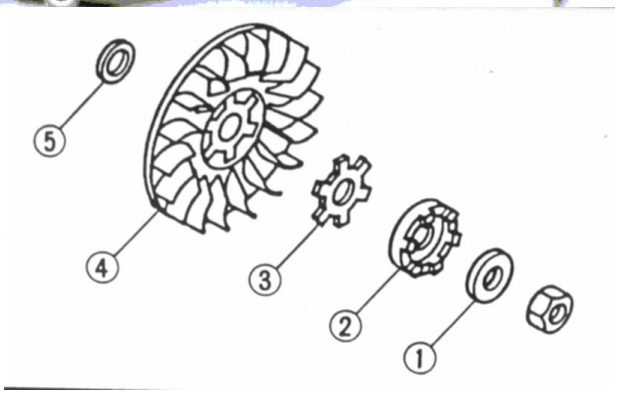
Remove the clutch outer & driven pulley.
Remove the drive belt.



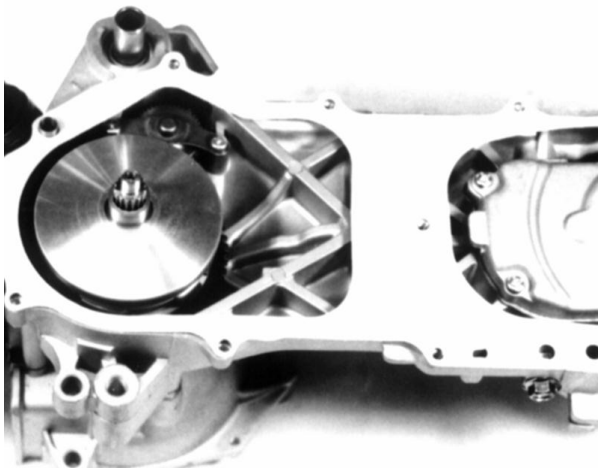
Remove the setting nut of driver face.



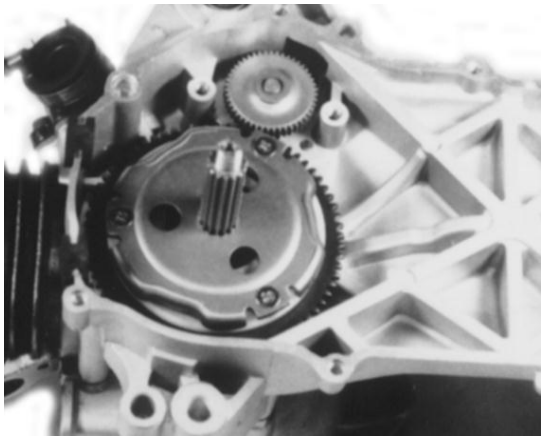
Remove the conical spring washer & the one way clutch.
Remove the claw washer, driver face & plat washer.



Remove the movable drive face & collar.

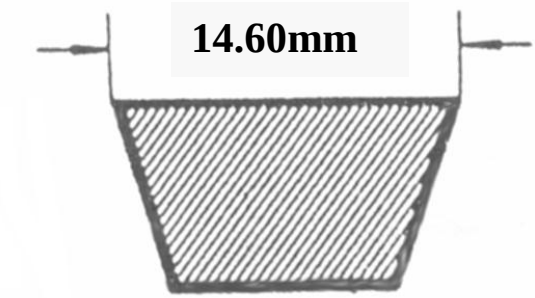


Remove the starter clutch & starter wheel.
Remove the gear boss.
Remove the plat washer.

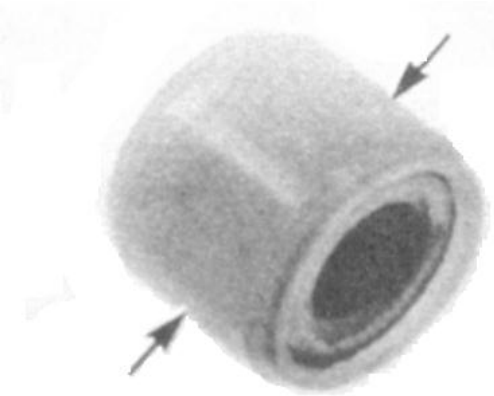


Remove the idle gear plate.
Remove the idle gear.

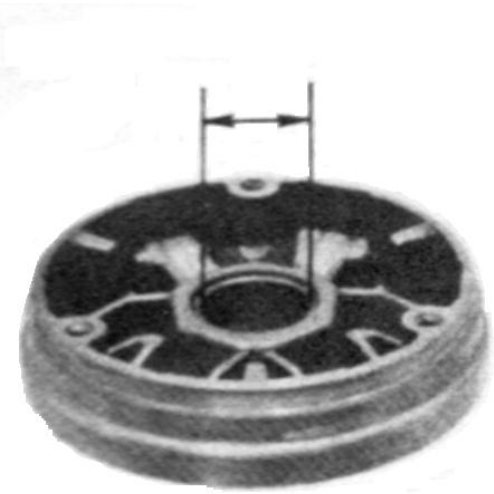
DRIVEN BELT INSPECTION
Inspect the belt for crack wear or any damage measure the width of belt.
SERVICE LIMIT : 14.60㎜



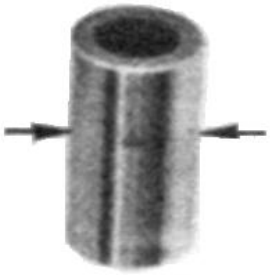
WEIGHT ROLLER INSPECTION
Measure the weight roller O. D.
SERVICE LIMIT : 14.5㎜



MOVABLE DRIVEN FACE INSPECTION
Measure the movable driven face I. D.
STANDARD: 20.5㎜



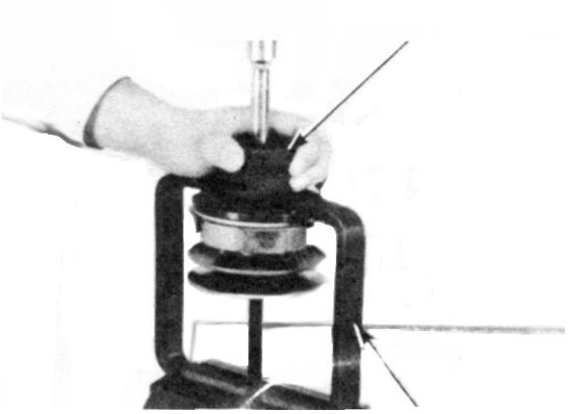
BOSS OF DRIVEN FACE INSPECTION
Measure the boss I. D.
SERVICE LIMIT :17.90㎜



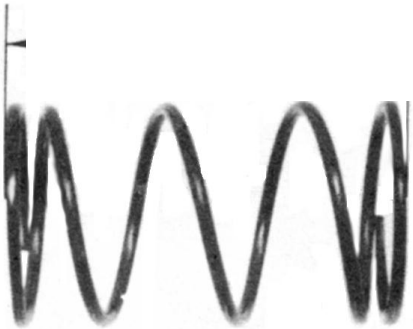
CLUTCH OUTER INSPECTION
Measure clutch outer I. D.
STANDARD : 109.5㎜

CLUTCH LINING INSPECTION
Measure the lining thickness.
STANDARD : 1.0㎜

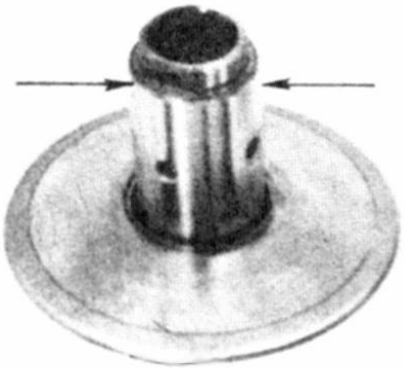
Fix the driven pulley in a compressor.
Remove the special nut (28㎜).
Release the compressor.
Remove the driven plat assy.



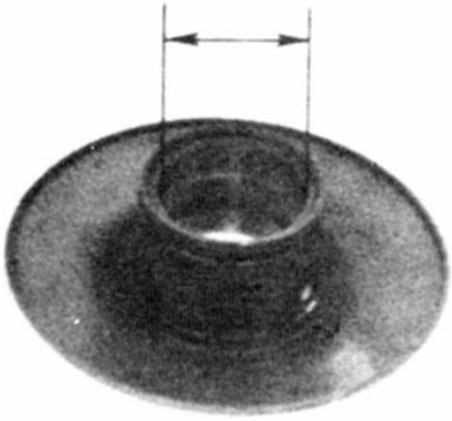
DRIVEN FACE SPRING INSPECTION
Measure the spring free leant.
STANDARD : 89.5㎜



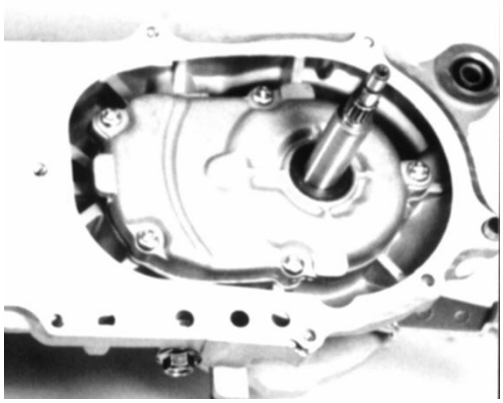
DRIVEN FACE INSPECTION
Measure the drive face O. D.
STANDARD : 33.94㎜



MOVABLE DRIVEN FACE INSPECTION
Measure the movable driven face I. D.
STANDARD : 34.06㎜



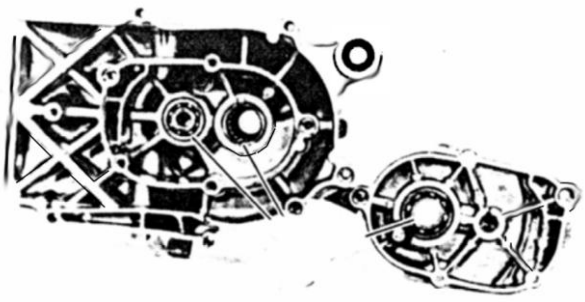
Final transmission gear removal.
Drain the gear oil
Remove the mission cover.



Remove mission cover gasket & dowel pin.
Remove final shaft & final gear.
Remove counter shaft.

FINAL GEAR TRANSMISSION GEAR INSPECTION

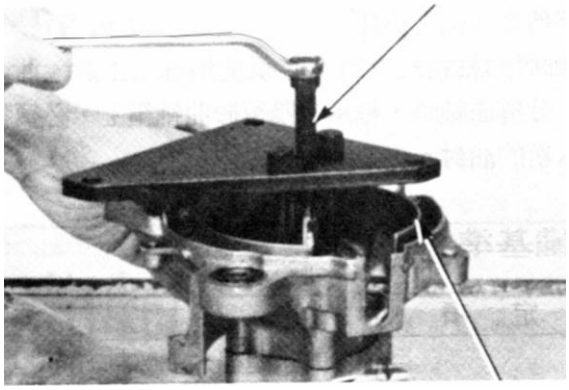
Inspect the gears & shafts for wear or damage.



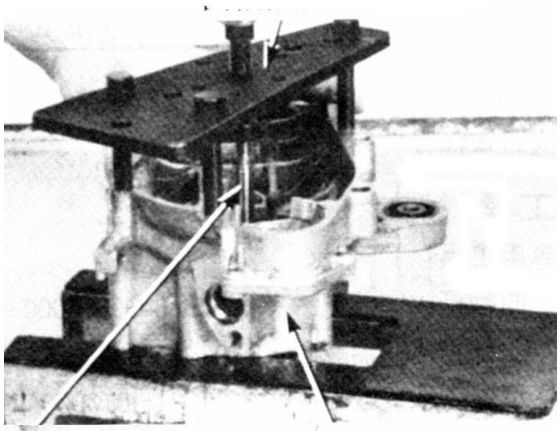
CRANKSHAFT/ CRANKCASE

Remove the crankcase setting bolts.

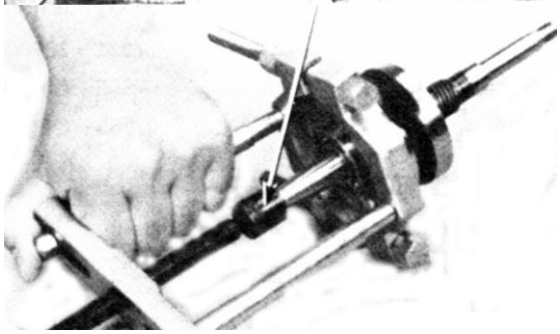
Remove the right crankcase from the left crankcase by using a pulley.



Remove the crankcase from the left crankcase by using a pulley.

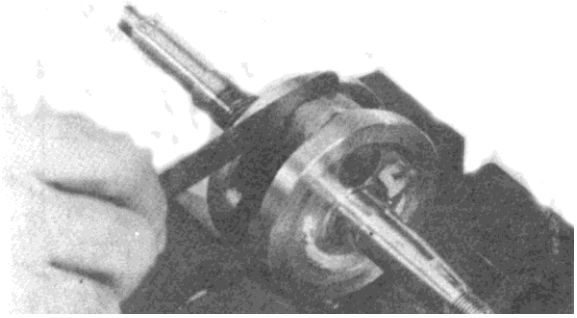


Remove the bearing of crankcase by using a bearing pulley.

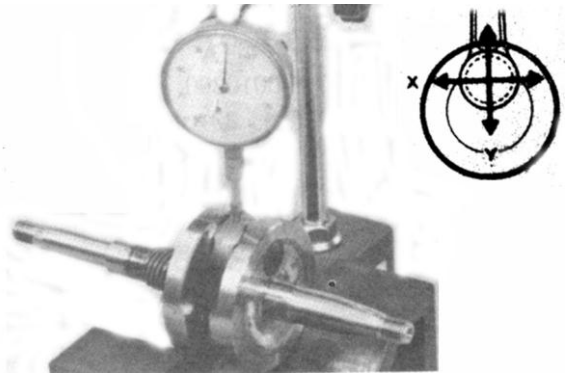


CRANKSHAFT INSPECTION

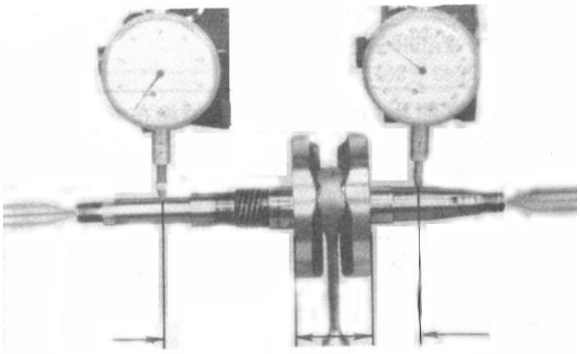
Measure the connecting rod big end side clearance with a feeler gauge.
STANDARD: 0.55 ㎜



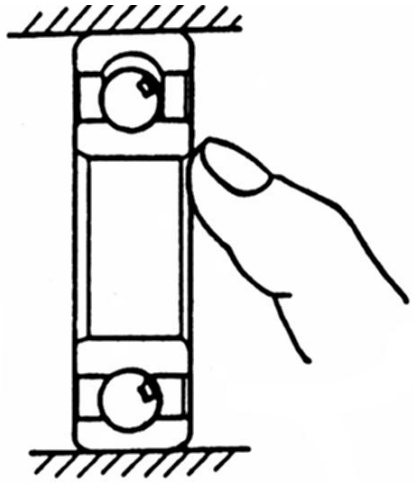
Measure the connecting rod big end radial clearance at two different point across from each other.
STANDARD:0.05㎜



Place the crankshaft on a stand or V-blocks and measure the run out using a dial gauge.
Actual bend is 1/2 of total indicator reading.
STANDARD: 0.1㎜

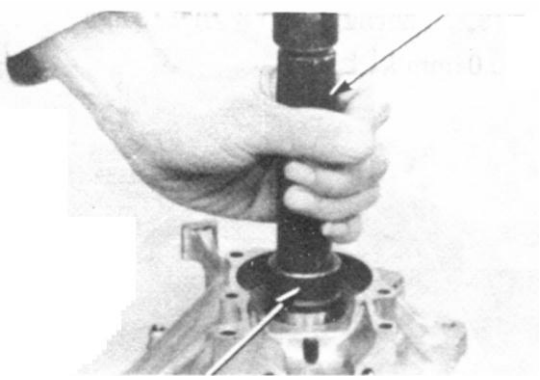


Check the crankshaft bearing play.
If they are noisy or have recessive play, replace a new one.

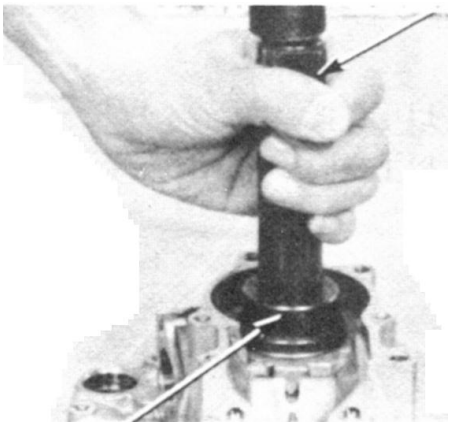


CRANKCASE INSTALLATION

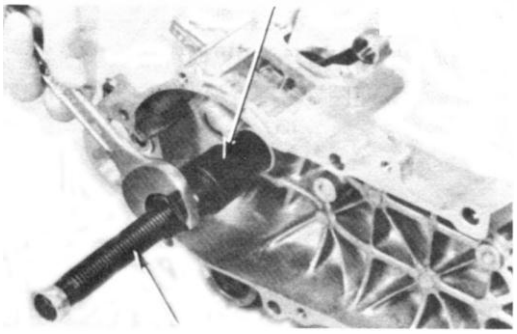
Install the crankshaft bearing into the left crankcase.



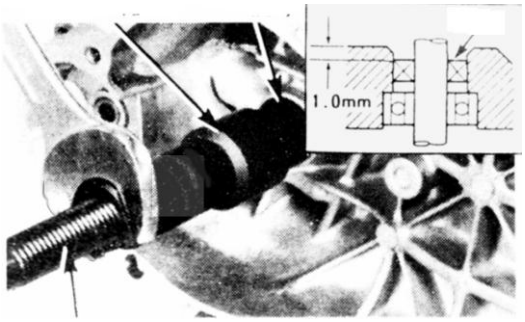
Install the crankshaft bearing into the right crankcase.



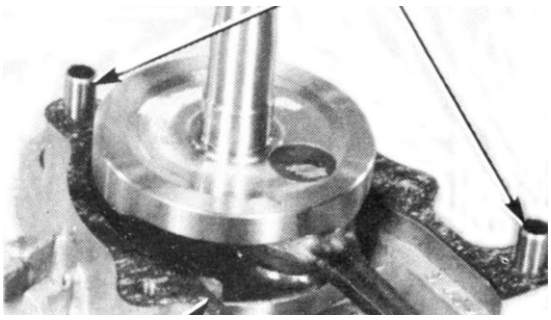
Install the crankshaft into the left crankcase.



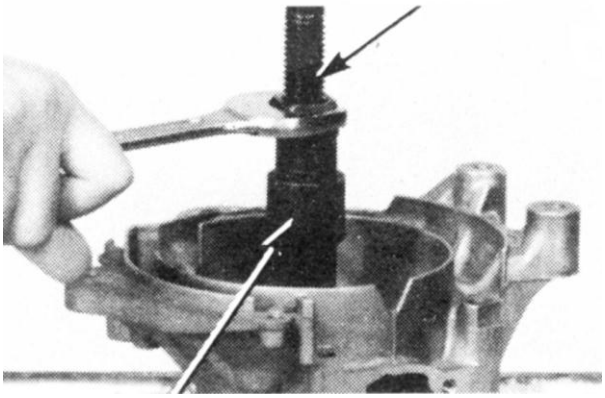
Install the oil seal into the left crankcase.



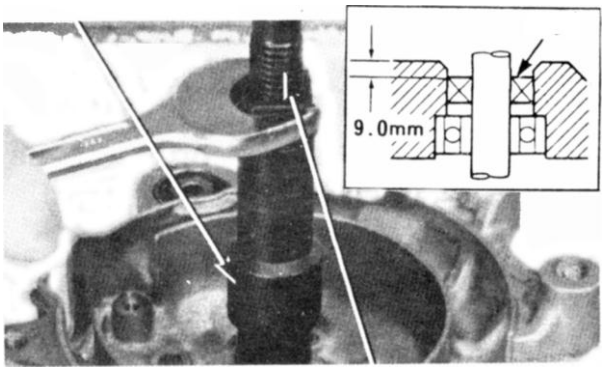
Install the dowel pins.



Install the right crankcase.



Install the oil seal into the right crankcase.



Install the setting bolts of crankcase.
TORQUE : 1.0㎏-m.

A.C. GENERATOR

Remove the seat & luggage box.
Remove the side covers.
Remove the cylinder air should.

Remove the fly wheel setting nut by using a "Y" fixer.

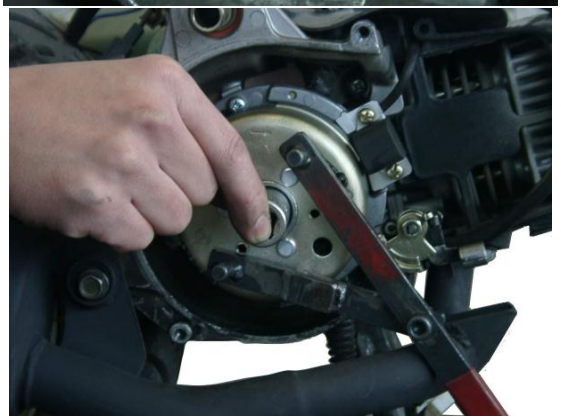
Remove the fly wheel by using a pulley.

Disconnect the wires of A. C. G.

Remove the A. C. G. setting bolts.
Remove the A. C. G.

A.C. G. INSTALLATION

The installation sequence is essentially the reverse of removal.



ALTERNATOR A.C.G. AND REGULATOR CHECK

(for Tracker and GTR 50)

ALTERNATOR A.C.G.

Set instrument range to 2000 Ω

Surge(coil resistance) : within 650 to 850 Ω; take red/black wire as positive and connect negative to body of A.C.G.

Pulsor (ignition resistance) : within 80 to 120 Ω; take blue/yellow (white/red for GTR) wire as positive and connect negative to body of A.C.G.

If not within range : malfunction

REGULATOR

Set instrument range to 200 Ω

Take black wire as positive

Black to red :	2.68Ω
Black to pink :	2.14Ω
Black to yellow :	1.27Ω
Black to green :	.556Ω

Must have those values if not malfunction.